

DICRANORCHESELLA, A NEW GENUS OF SPRINGTAILS
FROM MEXICO (COLLEMBOLA: ENTOMOBRYIDAE)

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Abstract.—*Dicranorchesella boneti*, a new genus and species from Mexico, is described and differentiated from its closest relatives, the genera *Dicranocentrus* and *Orchesella*. A key to the genera of Orchesellini with six segmented antennae is presented.

During the course of a revision of the genus *Dicranocentrus*, some specimens, identified as belonging to that genus, were received from Dr. F. Bonet. Careful study revealed that a new genus must be erected for these specimens.

Since, in some important morphological characters, this new genus appears intermediate between the genera *Dicranocentrus* Schött and *Orchesella* Templeton, I have named it *Dicranorchesella*. The species is named *D. boneti* after Dr. Bonet who collected most of the material and kindly forwarded it for study.

Dicranorchesella Mari Mutt, new genus

Orcheselline in general body appearance. Body covered by elongated fusiform shaped scales (Fig. 3a-c) which are absent from antennae, legs, and collophore and by finely ciliated short setae in addition to macrochaetae, microchaetae, and lasiotrichiae. Ciliated setae present throughout legs. Smooth setae present on inner face of tibiotarsi. Antennae 6-segmented with last 2 segments annulated. Eyes, 8 to each side of the head; A and B are the largest, G and H are the smallest. Postantennal organ absent. Collarette present. General dorsal head macrochaetotaxy pattern as in Fig. 5d; dorsal body macrochaetotaxy as in Fig. 6d. Claw structure (Fig. 2) as in most Entomobryinae; unguis with 2 inner teeth and a distal unpaired tooth. Unguiculus with a tooth on 1 of the outer lamellae. Dental spines present, long, stout, simple, arranged in a row on proximal inner dorsolateral margin of dentes (Fig. 1). Mucro consisting of 2 teeth and a basal spine.

Type-species.—*Dicranorchesella boneti*, n. sp.

Diagnosis and Discussion.—*Dicranorchesella* is closely related to *Dicranocentrus* and *Orchesella* but may be readily separated from these genera by the following key.

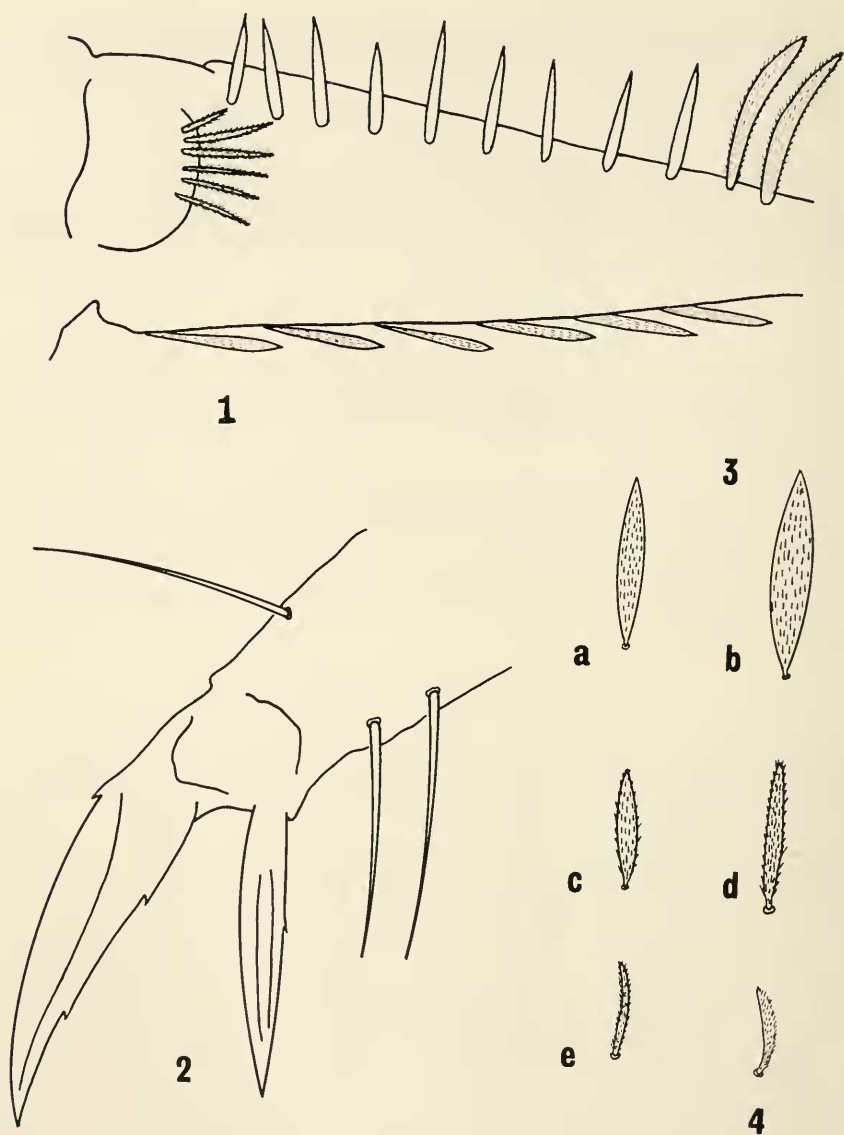


Fig. 1. Lateral view of the dens showing the arrangement of the dental spines. Fig. 2. Claw structure of the posterior left leg. Fig. 3. a-c, scales. d-e, intermediate structures between scales and setae. Fig. 4. Ciliated seta of the type that covers the head and body.

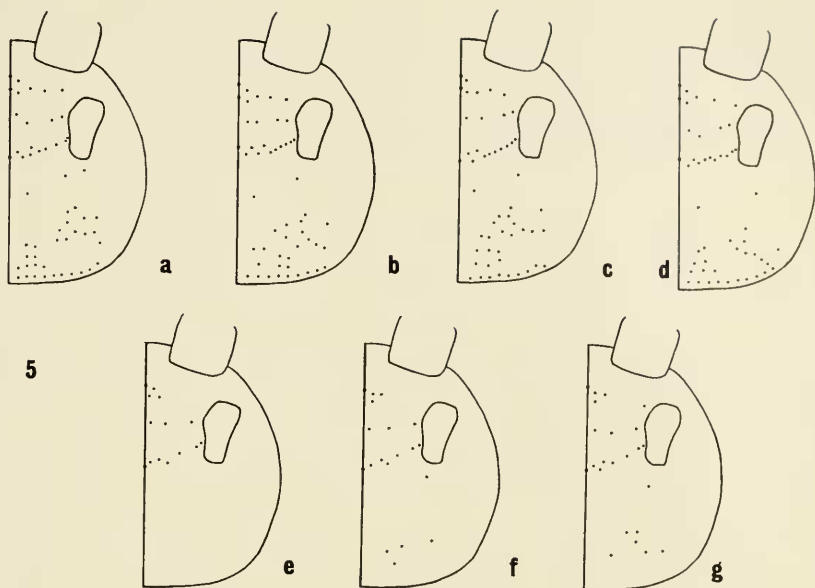
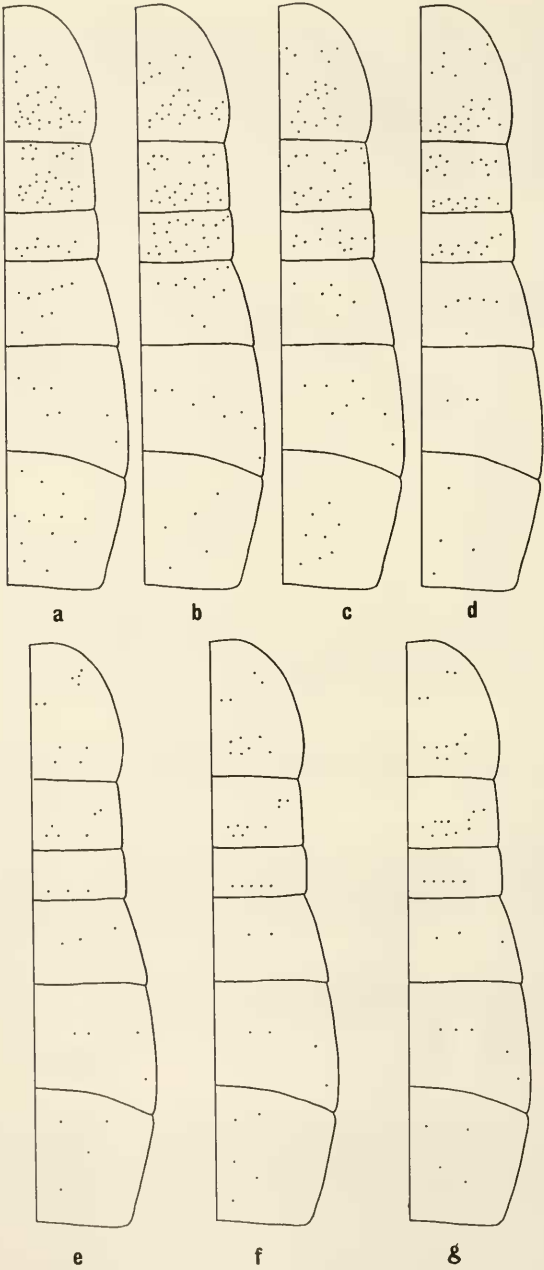


Fig. 5. Dorsal head macrochaetotaxy (each dot represents a seta). a. *Orchesella* sp. 1, b. *O.* sp. 2, c. *O. ainsliei*, d. *Dicranorchesella boneti*, e. *Dicranocentrus marias*, f. *D. gracilis*, and g. *D. sundanensis*.

Key to the Genera of Orchesellini Possessing Six Segmented Antennae

1. Scales absent *Orchesella* Templeton
- Scales present 2
2. Scales variable in size and shape but not fusiform, usually apically rounded or truncated; scales present on the 1st 4 antennal segments and on all segments of legs; short ciliated setae (Fig. 4) absent *Dicranocentrus* Schött
- Scales similar in size and fusiform in shape (Fig. 3a–c); absent from antennae and legs; short ciliated setae present *Dicranorchesella*, n. gen.

There is a close taxonomic relationship between these genera. Figures 5–6 present the head and body macrochaetotaxy of three species of *Dicranocentrus*, three species of *Orchesella* (sp. 2 was collected sympatrically with *D. boneti* in locality No. 6, see Material Examined), and the new genus and species, *Dicranorchesella boneti*. A comparative study of these figures reveals that *Dicranorchesella* has a macrochaetotaxy which is very similar to the pattern observed in the genus *Orchesella*, and distinctly different, although common elements exist, from that of the genus *Dicrano-*



centrus. Furthermore, *Dicranorchesella* also shares with *Orchesella* the presence of short ciliated setae which are absent in *Dicranocentrus*.

On the other hand, *Dicranorchesella* shares with *Dicranocentrus*, and not with *Orchesella*, the presence of scales and dental spines, while differing from *Dicranocentrus* in the characters given in the key and in the head and body macrochaetotaxy.

Dicranorchesella boneti Mari Mutt, new species

Length of adults to 3.5 mm, averaging 2.6 mm ($n = 27$). Background color of body and appendages light yellow to light brown. Light purple pigment present throughout specimens in the following way: Antennae heavily pigmented throughout, the pigment being more intense on apical portions of segments. Head deeply pigmented on anterior $\frac{1}{2}$, pigment surrounding mouth cone. Diffuse pigment present between eyes and antennal bases but forms no definite clear-cut band, as may be found in many species of *Dicranocentrus*. Legs deeply and evenly pigmented throughout, the pigment being more evident on posterior halves of the segments, especially at boundary with next somite. Manubrium evenly pigmented, in more heavily colored specimens the pigment extends to anterior portion of dentes. Collophore diffusely pigmented throughout. Pigment intensity and distribution rather variable intraspecifically; some specimens nearly evenly blue. Antennal segment 6 subequal in length to segment 5. Tibiotarsi with rows of smooth setae on inner margin. Claw structure as in Fig. 2. Tenent hair lanceolate. Dental spine arrangement as in Fig. 1. Head and body macrochaetotaxy as in Figs. 5d and 6d.

Material Examined (All from Mexico).—1) Hidalgo, Chapulhuacán, 3 kms from town at Km 339.800 of the road Mexico-Laredo, 910 m el., April 5, 1942, very moist leaf mold and rotten wood in tropical rain forest, F. Bonet, coll. *Holotype*, 20 paratypes, and 8 immatures. 2) As the preceding but collected on May 26, 1944. Three paratypes and 9 immatures. 3) Veracruz, Fortín, along the road from Fortín to Córdoba, 900 m el., January 15, 1952, leaf mold under coffee, plantain, and other trees, F. Bonet, coll. Three paratypes and 4 immatures. 4) Veracruz, Coscomatepec de Bravo, November 12, 1943, leaf mold, M. Cardenas, coll. One immature. 5) San Luis Potosí, Tamazunchale, 5 kms south of town, Km 363 on road Mexico-Laredo, 160 m el., May 20, 1944, moist leaf mold in tropical rain forest, F. Bonet, coll. Two paratypes. 6) San Luis Potosí, Tamazunchale,

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Fig. 6. Dorsal body macrochaetotaxy (each dot represents a seta). a. *Orchesella* sp. 1, b. *O.* sp. 2, c. *O. ainsliei*, d. *Dicranorchesella boneti*, e. *Dicranocentrus marias*, f. *D. gracilis*, and g. *D. sundanensis*.

March 15, 1948, debris from banana plantation, C. H. Seevers, coll. One paratype.

Material Repository.—Illinois Natural History Survey has holotype, 14 paratypes, and all immatures from locality no. 1 and all the material from localities 2–6. F. Bonet collection (Instituto Mexicano del Petroleo, Mexico 14 D. F.) has five paratypes from locality no. 1. Field Museum of Natural History (Chicago, Illinois) has one paratype from locality no. 1.

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